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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,089	03/31/2004	Marek Matusz	TH-1657 (US)	7339
23632	7590	10/13/2006		
SHELL OIL COMPANY P O BOX 2463 HOUSTON, TX 772522463				
			EXAMINER MATTHEWS, ABRAHAM M	
			ART UNIT	PAPER NUMBER

1755

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/815,089

Applicant(s)

MATUSZ ET AL.

Examiner

Abraham M. Matthews

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) 1-15, and 24-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-23 and 46-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 07/26/2004; 09/07/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

(1)

### ***Election/Restrictions***

Applicants' election without traverse of claims 16-23 and 46-49 inclusive in the reply filed on September 11, 2006, is acknowledged.

Claims 1-15 and 24-45 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected claims, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on September 11, 2006. Applicants' amendments to the claims consisting of addition of four new dependent claims directed to the process of preparing the catalyst composition is also acknowledged.

(2)

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16-23 and 46-49 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,504,053 to Chou et al.

Regarding Applicants' claims 16, 17 and 18, Chou et al. disclose a process for preparing a catalyst composition comprising, selecting a support having a surface area of 0.03 m<sup>2</sup>/g (30m<sup>2</sup>/kg) to about 10 m<sup>2</sup>/g (10x10<sup>3</sup> m<sup>2</sup>/kg), and depositing on the support: silver metal, a metal or component comprising rhenium, tungsten, molybdenum, or a nitrate- or nitrite-forming compound, and a component containing a Group 1A metal having an atomic number of at least 5 to 83, and in addition potassium. (Chou et al.,

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column 14, lines 8-14, column 8, lines 24-27, column 5, column 9, lines 1-44, and column 5, lines 23-34).

The " $Q_k/R + Q_{HIA}$ " limitations of claims 16-18 can be found in Chou et al. at column 15, line 63 to column 16, line 12.

Regarding Applicants' claim 19, 46, and 47, Chou et al., disclose a process for preparing a catalyst composition. Chou et al., further disclose that in said process for preparing a catalyst composition, preferably, cesium comprises at least about 10, more preferably, about 20-100 percent by weight of the total added alkali metal and alkaline earth metal (i.e., Group 1A metals having an atomic number of at least 37, in this instant case) in the finished catalyst. (Chou et al., column 16, lines 12-15).

Regarding Applicants' claims 20-22, and 48, Chou et al further disclose said process wherein, the surface area of the support is preferably from about  $0.05 \text{ m}^2/\text{g}$  ( $50 \text{ m}^2/\text{kg}$ ) to about  $5 \text{ m}^2/\text{g}$  ( $5000 \text{ m}^2/\text{kg}$ ). (Chou et al., column 14, line 11). Chou et al. also disclose that the requisite range of quantities of the cation promoter (alkali metal, i.e., potassium, in this instant case) present in the catalyst composition generally lies between about 10 ppm ( $0.26 \text{ mmoles/kg}$ ) and about 4000 ppm ( $102.56 \text{ mmoles/kg}$ ), preferably about 15 ppm ( $0.38 \text{ mmoles/kg}$ ) and about 3000 ppm ( $76.92 \text{ mmoles/kg}$ ), and more preferably between about 20 ppm ( $0.51 \text{ mmoles/kg}$ ) and about 2500 ppm ( $64.1 \text{ mmoles/kg}$ ) by total weight of the catalyst composition. (Chou et al., column 16, lines 1-4). Chou et al. also teach that the ratio of cesium salt (Higher Group 1A component, in this instant case) to the other salt(s) may vary preferably from about 0.001:1 to 1000:1 (Chou et al., column 16, lines 10-12).

Therefore, the following various ranges in the value of the expression  $(Q_k/R) + Q_{HIA}$ , as set forth in Applicants' claims 20-22, and 48 : (1) 0.5 to 50 mmoles/kg with surface area of support in the range of 500 to 5000  $\text{m}^2/\text{kg}$  (claim 20), (2) 1 to 40 mmoles/kg with surface area of support in the range of 500 to 5000  $\text{m}^2/\text{kg}$  (claim 21), (3) 1.5 to 12 mmoles/kg with surface area of support in the range of 500 to 1500  $\text{m}^2/\text{kg}$  ; or 4 to 15 mmoles/kg with surface area of support in the range of 1500 to 2500  $\text{m}^2/\text{kg}$ ; or 5 to 25 mmoles/kg with surface area of support in the range of 2500 to 5000  $\text{m}^2/\text{kg}$  (claim 22), and (4) 2 to 6 mmoles/kg with surface of support of 500 to 1500  $\text{m}^2/\text{kg}$  ; or 6 to 10

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mmoles/kg with surface area of support of 1500 to 2500 m<sup>2</sup>/kg; or 10 to 20 mmoles/kg with surface area of support of 2500 to 5000 m<sup>2</sup>/kg, - all fall within the limitations taught by the disclosure of Chou et al as set forth above.

Regarding Applicants' claim 23, Chou et al., as set forth above, under rejection of claim 16, disclose a process for preparing a catalyst composition. Chou et al. also disclose that said process further comprises depositing on the support anion promoters or modifiers selected from the group consisting of one or more of sulfate, phosphate, and borate, among others (Chou et al., column 16, lines 32-39).

Regarding Applicants' claim 49, Chou et al. disclose that the catalyst composition may contain lithium, selected among other alkali metal and/or alkaline earth metals (i.e Group 1A metals or components comprising a Group 1A metal). (Chou et al., column 15, lines 30-34). Chou et al. also further disclose that the concentration of the alkali metal salt (such as lithium salt) and the alkaline earth metal in the final catalyst composition may vary from about 0.0005 to 1.0 weight percent (or about 0.7 mmoles/kg to 1.43 moles per kg, respectively) relative to the total catalyst composition. (Chou et al., column 15, lines 56-58, and lines 63-65).

### Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abraham M. Matthews whose telephone number is (571) 272-2495. The examiner can normally be reached on M-F 8:00 -4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Abraham M Matthews  
Examiner  
Art Unit 1755

AMM



DAVID SAMPLE  
PRIMARY EXAMINER